Abstract

This poster presents the results of a study that compared the kinds of decisions teachers made when viewing student data in graphs and when reviewing data numerically in a table. Results indicated that teachers working from numerical data more frequently made decisions that aligned with expert judgment than teachers viewing data in graphs. Also reviewed is a brief method to determine which data format is most helpful for the teachers with whom they work.

Introduction

School psychologists working in consultation must present data to teachers that enable the teachers to make effective instructional decisions. In doing so they must consider the format and content that will clearly communicate the information most essential for decision making (Hood & Dorman, 2008). While graphical presentations of student progress monitoring data have been endorsed as critical elements of a progress monitoring system (Fuchs & Fuchs, 1986), some research has questioned whether using graphical displays led educators to make different decisions than other decision making models that do not employ graphs (Burns, Scholin, Kosciolke, & Livingston, 2010).

Current Study

The current study examined whether different data presentation formats of individual reading CBM data helped teachers make more accurate decisions regarding student intervention services.

Methods

Participants

• Teachers (N = 41)
• Three schools participating in a project aimed at ensuring reading development for all students in grades K-3
• Collaboration with interventionists providing tier 2 reading interventions
• Attended monthly meetings to review progress monitoring data

Procedures

• Teachers were randomly assigned to chart or graph conditions
• Presentation varied for scores on a general outcome measure, slope value for the student's trend line, and the target slope based on benchmark standards
• Teachers were asked to identify the appropriate course of action for each student
• Correct decisions were determined by an expert in reading interventions

Results

• On average, teachers viewing graphs did not make greater numbers of correct decisions
• On average, teachers in each condition made about 50% correct decisions about intervention
• Different proportions of correct decisions were observed at each school

Results: Across School Comparison

<table>
<thead>
<tr>
<th>School</th>
<th>Average Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>38%</td>
</tr>
<tr>
<td>School B</td>
<td>41%</td>
</tr>
<tr>
<td>School C</td>
<td>50%</td>
</tr>
</tbody>
</table>

Results: Across Grade Comparison

<table>
<thead>
<tr>
<th>Grade</th>
<th>Average Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>53%</td>
</tr>
<tr>
<td>Grade 2</td>
<td>58%</td>
</tr>
<tr>
<td>Grade 3</td>
<td>64%</td>
</tr>
</tbody>
</table>

Discussion

• No benefit to using graphs or tables to present data
• Across all teachers materials facilitated correct decisions at a rate only marginally higher than chance
• Different patterns observed in the proportion of correct decisions made at each school
• Indicate the need to implement ongoing teacher development in data-based decision making
• May indicate the role of individual teacher differences in experience and training
• Future research should explore the role of school as a potential cluster-level variable.